

Table S2. Gene names, accession numbers, Genbank annotations and predicted functions in catabolism of tHyp-B/Pro-B. The entries are colored as in Figure 1

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|--------------|-----------------------|-------------------------|-----------------------|---|---|
| <i>putA</i> | R2601_22182 | Pden_0943 | RSP_2166 | Proline dehydrogenase / Delta-1-pyrroline-5-carboxylate dehydrogenase | Proline dehydrogenase / Delta-1-pyrroline-5-carboxylate dehydrogenase |
| Genes | <i>P. bermudensis</i> | <i>P. denitrificans</i> | <i>R. sphaeroides</i> | | |
| | HTCC2601 | PD1222 | 2.4.1 | | B catabolism |
| <i>hpBA</i> | R2601_01613 | Pden_1197 | RSP3681 | 2,4-dienoyl-CoA reductase | N-Me-Hyp/Pro-B N-demethylase |
| <i>hpB1</i> | R2601_01623 | Pden_1189 | RSP3978 | Putative aromatic-ring hydroxylating dioxygenase, alpha-subunit | Hyp-B/Pro-B N-demethylase, Rieske-type |
| <i>hpB1</i> | R2601_01628 | Pden_1188 | RSP3979 | Possible dioxygenase reductase subunit | Hyp-B/Pro-B N-demethylase, Ferredoxin |
| <i>hpB2</i> | R2601_01638 | Pden_1187 | RSP4007 | Mandelate racemase/muconate lactonizing enzyme | Hyp-B/Pro-B 2-epimerase |
| <i>hpB3</i> | R2601_01663 | Pden_4748 | RSP4000 | ABC Glycine betaine/L-proline transporter, ATPase | Hyp-B/Pro-B ABC transporter, ATPase |
| <i>hpB4</i> | R2601_01668 | | RSP3999 | ABC Glycine betaine/L-proline transporter, permease | Hyp-B/Pro-B ABC transporter, permease |
| <i>hpB5</i> | R2601_01673 | Pden_4749 | RSP3998 | ABC Glycine betaine/L-proline transporter, SBP | Hyp-B/Pro-B ABC transporter, SBP |
| <i>hpB6</i> | R2601_04863 | Pden_0015 | RSP2575 | Glutathione-dependent formaldehyde-activating enzyme | Glutathione-dependent formaldehyde-activating enzyme |
| <i>hpB7</i> | R2601_04943 | Pden_0016 | RSP2576 | Alcohol dehydrogenase GroES domain protein | Formaldehyde dehydrogenase |
| <i>hpB8</i> | R2601_18653 | Pden_2831 | Not present | Possible dioxygenase reductase subunit | Hyp-B/Pro-B N-demethylase, Ferredoxin |
| <i>hpB9</i> | R2601_18658 | Pden_2832 | Not present | Putative aromatic-ring hydroxylating dioxygenase, alpha-subunit | Hyp-B/Pro-B N-demethylase, Rieske-type |
| <i>hpB10</i> | R2601_18663 | Pden_1190 | RSP3977 | Probable LysR-family transcriptional activator | LysR-type transcriptional regulator of Rieske-Ferredoxin, |
| <i>putA</i> | R2601_22182 | Pden_0943 | RSP_2166 | Proline dehydrogenase / | Proline dehydrogenase / |